**IN THE CLAIMS:**

A presentation of all of the pending claims with their current status indicated follows.

1-10. (Canceled)

11. (Currently Amended) An apparatus for measuring the flow velocity of a ~~fluid~~ liquid flowing through a conduit, the apparatus comprising:

an array of ~~at least two~~ ultrasonic ~~sensors~~ sensor pairs disposed at locations spaced along the length of the conduit in the direction of the flow of the ~~fluid~~liquid,

each ultrasonic sensor pair having an ultrasonic transmitter and an ultrasonic receiver, ~~and~~

each ultrasonic transmitter providing an ultrasonic signal having a transmission frequency of at least 5 megahertz,

each ultrasonic receiver being responsive to the receipt of the ultrasonic signal for providing a respective sensor signal indicative of a parameter of an ultrasonic signal propagating through the ~~fluid~~liquid,

wherein the array of ultrasonic sensor pairs comprising 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, or 16 ultrasonic sensor pairs; and

a processor that defines performs a spatial-temporal transformation to define a convective ridge ~~in~~ from the x-t domain to the k-ω plane domain in response to the sensor signals, and determines the slope of at least a portion of the convective ridge representing a concentration of disturbances that convect with the flow to determine the flow velocity of the ~~fluid~~liquid.

12. (Currently Amended) The apparatus of claim 11, wherein the processor samples the sensor signals over a predetermined time period, accumulates the sampled sensor signals over a predetermined sampling period, and processes the sampled sensor signals to define the convective ridge in the k-ω ~~plane~~domain.

13. (Currently Amended) The apparatus of claim 11, wherein the processor further determines the orientation of the convective ridge in the k-ω planedomain.

14. (Currently Amended) The apparatus of claim 11, wherein the sensor signals are indicative of vortical disturbances with the ~~fluid~~liquid.

15. (Currently Amended) The apparatus of claim 11, wherein the processor uses a beam forming algorithm to define the convective ridge in the k-ω ~~plane~~domain.

16. (Previously Presented) The apparatus of claim 15, wherein the beam forming algorithm includes one of a Capon algorithm and a MUSIC algorithm.

17. (Original) The apparatus of claim 11, wherein the processor determines the slope of at least a portion of the convective ridge by approximating the convective ridge as a straight line.

18. (Canceled)

19. (Currently Amended) The apparatus of claim 11, wherein the processor further determines the volumetric flow rate of the ~~fluid~~liquid.

20. (Currently Amended) The apparatus of claim 11, wherein the parameter of the sensor signals is the transit time to propagate through the fluid~~liquid between each ultrasonic sensor pair~~.

21. – 29. (Canceled)

30. (Previously Presented) The apparatus of claim 11, wherein the parameter of the sensor signals is the amplitude of the sensor signals.

31. (Currently Amended) The apparatus of claim 11, wherein the ultrasonic ~~sensors~~ sensor pairs are clamped onto an outer surface of the conduit.

32. (Currently Amended) The apparatus of claim 11, wherein the ultrasonic ~~sensors~~ sensor pairs are attached to the conduit.

33. (Currently Amended) The apparatus of claim 32, wherein the ultrasonic sensor pairs are in contact with the ~~fluid~~liquid.

34 - 37. (Canceled).

38. (Currently Amended) The apparatus of claim 11, wherein the ultrasonic transmitter and the ultrasonic receiver of each ultrasonic sensor pair are disposed opposing each other such that the ultrasonic signal propagates through the ~~fluid~~liquid substantially orthogonal to the direction of the ~~fluid~~liquid flow.

39 - 41. (Canceled).

42. (Previously Presented) The apparatus of claim 11, wherein the processor uses an array processing algorithm.

43 - 46. (Canceled).